

Patent Claims

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- 10 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
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1. A device for cooling heat-generating electrical or electronic components having a non-uniform output profile, comprising a heat-conducting unit (1) and a heat-absorbing unit which contains a phase change material (4), wherein the phase change material is arranged in such a way that heat flow from the electrical or electronic component to the heat-conducting unit (1) is not interrupted and a significant heat flow to the phase change material only occurs if the temperature of the heat-conducting unit (1) exceeds phase change temperature T_{PC} of the phase change material.
 2. The device according to claim 1, wherein the phase change material-containing unit (4) contains at least one cavity (6) into which the phase change material has been introduced, where the cavities (6) are formed by the heat-absorbing unit (4).
 3. The device according to claim 1, wherein the phase change material-containing unit (4) additionally contains a liquid/gaseous heat transfer medium (5).
 4. The device according to claim 3, wherein the liquid/gaseous heat transfer medium (5) is a halogenated hydrocarbon.
 5. The device according to claim 1, wherein a solid-solid phase change material is employed.
 6. The device according to claim 1, wherein the phase change material is encapsulated.

7. The device according to claim 1, wherein the heat-conducting unit (1) has surface area-increasing structures.
8. The device according to claim 1, wherein the heat-conducting unit (1) has cooling fins.
- 5 9. A component (Z), comprising a cooling device according to claim 1, a heat-generating electronic component (2), wherein units (1), (4) and component (2) are arranged in such a way that the heat flow between the heat-generating electronic component (2) and the heat-conducting unit (1) takes place in direct contact.
- 10 10. A component (Z) according to claim 9, wherein the electronic component (2) is a computer CPU or memory chip.
11. A computer containing a component (Z) according to claim 9.
12. An electronic data processing system containing a device according to claim 1.
- 15 13. A mobile communication power switch or power circuit, a mobile telephone or fixed transmitter transmission circuit, an electromechanical actuator control circuit, a satellite communication or radar application high frequency circuit, or a domestic appliance or industrial electronic actuator or control unit, comprising a device according to claim 1.
- 20 14. A device for absorbing heat, comprising a heat sink and a heat absorbing component containing a phase change material, wherein heat flows from the heat sink to the heat absorbing component when the heat sink temperature exceeds the phase change temperature of the phase change material.
- 25 15. A device for absorbing heat, comprising a heat sink means and a heat absorbing means containing a phase change material, wherein heat flows from the heat sink means to the heat

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absorbing means when the heat sink temperature exceeds the phase change temperature of the phase change material.

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16. A device for absorbing heat, comprising, in contact with a heat-generating electric or electronic component, a heat sink and a heat absorbing component containing a phase change material, wherein heat flows from the heat sink to the heat absorbing component when the heat sink temperature exceeds the phase change temperature of the phase change material. .

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